1	constant	Best
$log(n)$	logarithmic	Typically good
n	linear	Pretty good
$n \cdot log(n)$	linearithmic	Meh
n^2	quadratic	Ok
n^3	cubic	Bad
2^n	exponential	Very bad
c^n	exponential	Very very bad
$n!$	factorial	Doesn't get worse

$T(n) = O(f(n))$ such that $T(n) \leq c \cdot f(n)$ for all $n \geq n_0$

$$
\begin{array}{lcll}
5n + 10log(n) - 12 & \leq & 5n + 10log(n) - 12 & \\
& \leq & 5n + 10log(n) & \\
& \leq & 5n + 10n & n \geq 1 \\
& \leq & 15n & n \geq 1 \\
& & & \\
& & & c = 15 \\
& & & n_0 = 1 \\
& & & T(n) \in O(n)
\end{array}
$$

$O(n)$	Worst case	Never goes slower
$\Omega(n)$	Best case	Never goes faster
$\Theta(n)$	Average case	

$T(n)$ is $\Theta(f(n))$ iff $T(n) \in O(f(n))$ AND $T(n) \in \Omega(n)$